--This application is a continuation of application Serial No. 09/162,444 filed on September 29, 1998, now U.S. Patent No. 6,161,194, which is a continuation of application Serial No. 08/895,886 filed on July 17, 1997, now U.S. Patent No. 5,941,993, which is a continuation of application Serial No. 08/534,841 filed on September 27, 1995, now U.S. Patent No. 5,889,938, which is a continuation of application Serial No. 07/859,850, filed on March 30, 1992, now U.S. Patent No. 5,495,572. The contents of application Serial Nos. 09/162,444, 08/895,886, 08/534,841, and 07/859,850 are hereby incorporated herein by reference in their entirety.--

IN THE CLAIMS

Cancel claims 7-12 without prejudice or disclaimer of the subject matter thereof.

Amend claims 1 and 4-6 as follows:

--1. (Amended) A data storage system connectable to a host unit which issues data read/write requests to the data storage system, the data storage system comprising:

a plurality of disc units; and

a controller connected to the disc units;

wherein a fault can occur in any of the disc units;

wherein the disc units store data in a plurality of data groups and error correcting data corresponding to each of the data groups;

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wherein the controller performs processing of reconstructing data stored in any of the disc units in which a fault has occurred based on all other data belonging to any of the data groups to which the data to be reconstructed belongs and error correcting data corresponding to any of the data groups to which the data to be reconstructed belongs, and performs processing of data read/write requests from the host unit; and

wherein the controller is operable in

a first mode wherein a frequency of the processing of reconstructing data within a unit time in the plurality of disc units is higher than a frequency of the processing of data read/write requests within the unit time in the plurality of disc units, and

a second mode wherein a frequency of the processing of data read/write requests within a unit time in the plurality of disc units is higher than a frequency of the processing of reconstructing data within the unit time in the plurality of disc units.--

--4. (Amended) A data storage system connectable to a host unit which issues data read/write requests to the data storage system, the data storage system comprising:

a plurality of disc units; and

a controller connected to the disc units;

wherein a fault can occur in any of the disc units;

wherein the disc units store data in a plurality of data groups and error correcting data corresponding to each of the data groups;

wherein the controller performs processing of reconstructing data stored in any of the disc units in which a fault has occurred based on all other data belonging to any of the data groups to which the data to be reconstructed belongs and error correcting data corresponding to any of the data groups to which the data to be reconstructed belongs, and performs processing of data read/write requests from the host unit;

wherein the controller is operable in

a first mode wherein a frequency of the processing of reconstructing data within a unit time in the plurality of disc units is higher than a frequency of the processing of data read/write requests within the unit time in the plurality of disc units, and

a second mode wherein a frequency of the processing of data read/write requests within a unit time in the plurality of disc units is higher than a frequency of the processing of reconstructing data within the unit time in the plurality of disc units; and

wherein the controller determines whether to operate in the first mode or the second mode in order to complete data reconstruction within a fixed time which is determined before the processing of reconstructing data begins.

B3 7. (Amended) A data storage system connectable to a host unit which issues data read/write requests to the data storage system, the data storage system comprising:

a plurality of disc units; and

a controller connected to the disc units;

wherein a fault can occur in any of the disc units;

wherein the disc units store data in a plurality of data groups and error correcting data corresponding to each of the data groups;

wherein the controller performs processing of reconstructing data stored in any of the disc units in which a fault has occurred based on all other data belonging to any of the data groups to which the data to be reconstructed belongs and error correcting data corresponding to any of the data groups to which the data to be reconstructed belongs, and performs processing of data read/write requests from the host unit;

wherein the controller is operable in

a first mode wherein a frequency of the processing of reconstructing data within a unit time in the plurality of disc units is higher than a frequency of the processing of data read/write requests within the unit time in the plurality of disc units, and

a second mode wherein a frequency of the processing of data read/write requests within a unit time in the plurality of disc units is higher than a frequency of the

processing of reconstructing data within the unit time in the plurality of disc units; and

wherein the controller determines whether to operate in the first mode or the second mode based on a condition determined before the processing of reconstructing data begins.

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~~6.~~ (Amended) A data storage system connectable to a host unit which issues data read/write requests to the data storage system, the data storage system comprising:

a plurality of disc units; and

a controller connected to the disc units;

wherein a fault can occur in any of the disc units;

wherein the disc units store data in a plurality of data groups and error correcting data corresponding to each of the data groups;

wherein the controller performs processing of reconstructing data stored in any of the disc units in which a fault has occurred based on all other data belonging to any of the data groups to which the data to be reconstructed belongs and error correcting data corresponding to any of the data groups to which the data to be reconstructed belongs, and performs processing of data read/write requests from the host unit;

wherein the controller is operable in

a first mode wherein a frequency of the processing of reconstructing data within a unit time in the plurality of

disc units is higher than a frequency of the processing of data read/write requests within the unit time in the plurality of disc units, and

a second mode wherein a frequency of the processing of data read/write requests within a unit time in the plurality of disc units is higher than a frequency of the processing of reconstructing data within the unit time in the plurality of disc units; and

wherein the controller determines whether to operate in the first mode or the second mode based on a time for reconstructing data which is determined before the processing of reconstructing data begins.--

Add new claims 13-16 as follows:

--~~13.~~ (New) A data storage system according to claim 1, wherein both the processing of reconstructing data and the processing of data read/write requests are performed in both the first mode and the second mode.

~~14.~~ (New) A data storage system according to claim ~~4~~ 5, wherein both the processing of reconstructing data and the processing of data read/write requests are performed in both the first mode and the second mode.

~~15.~~ (New) A data storage system according to claim ~~5~~ 7, wherein both the processing of reconstructing data and the

processing of data read/write requests are performed in both the first mode and the second mode.

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~~16.~~ (New) A data storage system according to claim ~~6~~, wherein both the processing of reconstructing data and the processing of data read/write requests are performed in both the first mode and the second mode.--